Cogent Education

ISSN: 2331-186X (Online) Journal homepage: www.tandfonline.com/journals/oaed20

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To cite this article: Vu – Phan Gia Anh, Tram- Nguyen Thi Huyen, Long- Vu Thanh, Ngoc-Nguyen Thi, Tuan – Le Anh & Thinh-Tien Bui (2025) Factors affecting the application of case study method: case studies at universities training in the economic block in Southern region, Vietnam, Cogent Education, 12:1, 2554954, DOI: 10.1080/2331186X.2025.2554954

To link to this article: https://doi.org/10.1080/2331186X.2025.2554954

Published online: 05 Sep 2025.

COGENT EDUCATION
2025, VOL. 12, NO. 1, 2554954
https://doi.org/10.1080/2331186X.2025.2554954

EDUCATIONAL LEADERSHIP & MANAGEMENT | RESEARCH ARTICLE OPEN ACCESS Check for updates

Factors affecting the application of case study method: case studies at universities training in the economic block in Southern region, Vietnam

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ABSTRACT

AbstractThe objective of this study is to identify the factors and their level of influence on the application of case study teaching method for students majoring in Economics at Southern Universities, Vietnam. Through the synthesis of relevant outstanding studies at home and abroad, the author has built a research model. The author has conducted a survey of 250 people including lecturers and students at Faculties and majors of Economics at universities that train this major in the Southern region, Vietnam. The results show that there are 5 factors influencing the application of case study teaching method in the following order: (1) quality of learning materials; (2) Lecturers; (3) readiness to apply technology; (4) University management perspective and (5) Students. Through the research results and comments recorded from lecturers and students, the benefits of applying the case study teaching method have been shown, thereby suggesting more opportunities for applying this method more widely.

ARTICLE HISTORY
Received 3 April 2025
Revised 22 August 2025
Accepted 25 August 2025

KEYWORDS
Case study teaching method; economics; university; South; Vietnam

SUBJECTS
Science; Environmental Studies & Management; Social Sciences; Economics, Finance, Business & Industry; Business, Management and Accounting; Accounting

JEL CLASSIFICATION
Code: I20; I23; I24; I29

1. Introduction

The case study method is to hypothesize a specific situation in reality, from which learners will discuss how to solve that problem (Killen and Hunt, 2010). The economic sector includes many different fields, each situation in reality about economic problems will also be very diverse, choosing how to solve that situation needs to be done through discussion. These debates will help learners develop critical thinking, identify how the theory learned in the classroom will be applied in real situations. Shavit et al. (2010) stated that the case study method is a process that clearly shows the relationship between the teacher (proposing the situation) and the learner (solving the situation), it is a process that includes many steps from planning, implementation and evaluating the results. The case study method has been applied in university teaching in many different fields such as medicine, law and economics, it is gradually becoming a method to help learners escape from lectures that are too theoretical (Lee et al., 2009). The aim is to help learners be proactive, familiarize themselves with real-life situations in school, and have proactive critical thinking in university studies. Ngcobo (2008) stated that if the case study teaching method is applied, learners will feel the classroom atmosphere is more interesting, the learning environment helps to enhance problem-solving skills. Lecturers will be motivated to improve the quality of teaching, to learn more deeply about current practical issues. When applying the case study method in teaching, it

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will help learners improve their teamwork skills, cooperate to come up with problem-solving solutions, increase their ability to express, present and listen to opposing opinions more carefully (Badger, 2010). Case study narrows the gap between theory and practice. Case study as a proposed teaching method will allow learners to relate what they have learned from the Economics content and relate it to their daily lives and their way of life in the respective community. The role of the lecturer is to help learners translate theory into practice through the use of case study.

In the context of higher education increasingly emphasizing the development of critical thinking, problem-solving, and practical skills, the case study method has become an important teaching tool in the field of economics and management (Nguyen et al., 2022; Cho et al., 2023). This method not only helps students connect theory with practice but also encourages self-study and group cooperation (Nguyen and Tran, 2024). However, the widespread application of this method in universities in Vietnam, especially in the field of economics, still faces many challenges such as limited teaching resources, suitable case materials, as well as student readiness (Ngo et al., 2023; Nguyen et al., 2024).

In the period 2020–2025, many international studies have focused on analyzing the factors that promote or hinder the application of the case study method, including the educational cultural context, school policies, and the level of teaching innovation (Li et al., 2023). However, empirical evidence in Vietnam is still limited, especially for the Southern region - where many key economic universities are concentrated, but there has not been any systematic study that comprehensively assesses the factors affecting the application of this method. Therefore, this study aims to identify and analyze the factors affecting the application of the case study method at economic universities in the South of Vietnam. The study not only adds empirical evidence to the Vietnamese context but also contributes to the international discussion on teaching innovation, while providing important implications for both theory and practice in the field of higher education.

This study is novel in that it focuses on the specific context of economic universities in Southern Vietnam, where many key training institutions converge but there have been few systematic studies on the application of case study methods. Unlike previous works that mainly stopped at describing the general benefits or difficulties of this method (Nguyen and Tran, 2024), the current study delves into identifying and testing influencing factors, thereby providing an empirical analytical framework that can be referenced and applied in subsequent studies. In terms of theoretical contributions, the study helps to supplement empirical evidence for the field of teaching method innovation in higher education, while expanding the discussion on the application of educational innovation theory in the context of developing countries (Li et al., 2023). In terms of practical contributions, the research results provide important suggestions for university leaders, lecturers and educational policy makers, helping them have a basis for building strategies, designing training programs and supporting lecturers in effectively implementing the case study method.

The rest of the paper is structured as follows: Section 2 presents the theoretical background and an overview of relevant studies on the application of case study methodology. Section 3 describes the research methodology, including the research design, survey subjects, and data analysis methods. Section 4 presents and discusses the research results. Finally, Section 5 provides conclusions, contributions, theoretical and practical implications, as well as limitations and suggestions for further research.

2. Theoretical background and research hypotheses

November et al. (2010) affirmed that teachers are the ones who create real-life situations related to the theoretical knowledge taught to learners. Only when learners have grasped the basic theoretical knowledge will they know how to synthesize that knowledge to solve real-life situations most effectively. The main goal is to help learners use their thinking most thoroughly in problem solving. The case method is suitable when the number of people in the group is small, which helps to exchange, discuss and find more effective ways to solve problems (Ngcobo, 2008). When managing a class using the case study method, teachers will focus on learners, suggest real-life situations that need to be discussed, and guide groups on how to solve those situations (Tal, 2010). Teachers must now have the skills to manage the classroom, to moderate the views of individuals and groups when they express their opinions, but must also have a firm grasp of the subject to make the most appropriate comments. Scheepers and de Villiers

(2000) believe that the case study method should be applied more widely, not only in the university environment but also flexibly in training courses. The application of the case study method will help learners improve their communication skills, help improve personal relationships and above all, it will improve students' academic performance. Iputo and Kwizera (2005) have affirmed that schools applying the case study teaching method will make students' learning attitudes change more positively, thereby improving their academic performance. Muraya and Kimamo (2011) also stated that applying the case study method will change the attitude of learners in a positive direction, of course the learning outcomes will also be higher in those subjects. Alam et al. (2010) stated that learners' teamwork skills, presentation skills, and perceptions of roles in hypothetical situations will be better when taught using the case study method regularly. Doucet et al. (2009) stated that students in the economic sector will have better learning outcomes when they are taught using the case study method, stopping at just learning theory will not encourage them to synthesize those theories in the most scientific way. When students are prompted in real-life situations, they will better apply the theories they have just learned to solve situations most effectively. The key point is that economics students must regularly discuss and find ways to present their ideas in the most scientific way to convince listeners. In addition, they will be more interested when being updated with real-life situations, thereby helping to improve students' learning outcomes. In contrast to studies that point out the advantages of the case study method in teaching, there are still some studies that present the viewpoint that this method encounters barriers that affect its implementation. Wormald et al. (2009) said that the application of the case study method is the uniformity of the learners' knowledge, when learners have not mastered the theories, it is very difficult for them to apply it in solving situations. Lecturers will also be a big barrier when they have to master the knowledge and skills to solve real-life situations, they are also the ones who must have enough knowledge and expertise to be able to build the most suitable situations, as well as propose ways to solve those situations. Ngcobo (2008) also commented that the case study method is difficult to implement in a large class environment, not to mention that there will be lecturers who meet the skills and knowledge in building and solving situations, while there will be lecturers who do not meet the standards. Hughes and Chen (2011) commented that there will be limited content that cannot be expressed in the case study method for a number of reasons such as viewpoints, culture, law or sensitivity. Tärnvik (2007) is concerned about the topicality of the situation, whether it is still new in conveying ideas to students, whether the assumptions made are attractive enough to attract students in the learning process, especially in the field of economics. Also agreeing with the above concerns about the issue of lecturers, the need to have skills in classroom management, coordination during discussion, problem solving, synthesis skills and drawing conclusions in the most convincing way. Lyons (2009) affirmed that applying the theory as well as the results of previous related studies in the situational teaching method requires lecturers to have very good skills in summarizing documents as well as analyzing and handling problems in a truly logical way.

In Vietnam, some researchers have studied the concept, characteristics and application of research methods in teaching, but the implementation methods are quite simple, mainly descriptive, focusing only on students in high schools. Ha (2019) pointed out that the situational method and the role-playing method are two active teaching methods that have always been of interest to educators. However, up to now, the combined application of these two methods in teaching Civic Education at high schools has not been widely studied and implemented in the teaching and learning process. The research on the combined use of these two methods in teaching Civic Education is not only meaningful in theory but also has profound practical significance, contributing to the implementation of the subject's objectives, meeting the requirements of innovation in current teaching methods. Hoang (2021) pointed out that the case study teaching method, especially in teaching organization and educational activities in secondary schools at the Faculty of Pedagogy, Saigon University, is a topic of interest to teachers teaching this subject. Although teachers now use case studies in teaching, increasing practicality and promoting creativity and flexibility of both teachers and students in general, there are still many difficulties from both teachers and students. For the university environment, where large universities as well as developed countries have widely applied the case study method, in Vietnam, this research direction has not been developed as expected. Diep (2014) demonstrated that young and inexperienced teachers sometimes encounter many difficulties when applying new teaching

methods. The use of case studies is a relatively new method that has been used in Business English classes at the Faculty of English Pedagogy, University of Languages and International Studies, VNU-Hanoi recently. However, it seems that the benefits of this method have not been fully exploited. This study introduces the pedagogical aspects surrounding the use of case studies in Business English courses. The study also describes the basic structure of case studies used in Business English textbooks. Above all, the study focuses on pointing out the basic principles as well as the techniques when using case studies in the classroom. This is hoped to help young teachers learn how to use case studies more effectively in the future, thereby increasing the effectiveness of teaching and learning as well as focusing more on learners. Giang (2015) has proposed the possibility of applying the case study method in the subject of Financial Accounting. Based on the concept, the importance of applying the case study method in teaching. The author has given a specific example of the application of this method, from which the steps are analyzed when the lecturer handles a specific situation to be able to guide students, create interest for students as well as help students to apply theories from accounting regulations and standards to handle specific cases in practice. Hoang (2019) conducted a survey of the needs of ESP teachers and 3rd year students of the Faculty of English Pedagogy, University of Foreign Languages, Vietnam National University, Hanoi in using case studies as an activity to teach and learn Economic English to meet output standards. There were 7 ESP teachers and 68 in 3rd year students of the English language major in the translation system of the SPTA faculty participating in the study. Participants were surveyed through a questionnaire and in-depth interviews. The results of the study showed that the use of case studies is inconsistent across classes because there is no common standard model across the group and the assessment criteria of teachers are also different even though the implementation methods, purposes and expectations are relatively similar. The study also showed a fairly similar opinion between teachers and students about the effectiveness of case studies in terms of knowledge, skills and attitudes. Regarding the challenges encountered during the implementation process, for teachers, the main difficulties come from the level, attitude and motivation of students. Meanwhile, the difficulties that students often encounter are mainly due to limitations in background knowledge and specialized vocabulary to be able to understand and solve situations. The design and consistent use of case studies with concise, easy-to-understand content, close to life, along with providing specialized knowledge and explaining vocabulary, difficult problems seem to be the solution that both teachers and students agree on. Hoai (2019) shared his experience in teaching general law in the university environment through specific illustrative examples. Through this, the author hopes to receive comments from teachers and experienced lecturers in teaching and research so that the author can further improve the teaching method, aiming to improve the quality and effectiveness of the work. Tho (2020) with the study of the teaching method using situations in teaching political theory subjects at universities and colleges today. The author stated that the issue of innovating teaching methods at universities and colleges in general and in each subject in particular is an urgent requirement today to improve the quality of human resource training for society. The teaching method using situations is an approach to innovating teaching methods. The general characteristics of political theory subjects are often generalization and abstraction. Applying the teaching method using situations in teaching political theory subjects will contribute to improving the quality of teaching and students' awareness of political theory issues. In summary, studies in Vietnam mainly stop at a level of sharing and describing the steps of teaching at different levels when using the case study method. There is no research that mentions or pays attention to the factors affecting the implementation of the case study method in the university teaching environment.

In recent years, many studies have focused on learner-centered teaching methods, especially situational learning and problem-based learning (Flyvbjerg, 2006; Giang, 2015; Hoai, 2019; Tärnvik, 2007). These works affirm the role of the situational method in developing analytical and problem-solving skills, but also point out the limitations related to resources and teaching capacity in the Vietnamese context (Hoang, 2021). In parallel, studies on other forms of active learning such as cooperative learning, role-playing, or the use of immediate feedback technology have shown positive effects in improving students' motivation and learning outcomes (Muraya and Kimamo, 2011; Doucet et al., 2009; Shavit et al., 2010). In addition, the research direction on academic competence and skill development (Badger, 2010; Diep, 2014) also reflects the general trend of competency-based education. Beyond the classroom, some

studies focus on educational innovation and university governance, especially in developing countries and in the context of Vietnamese higher education (Tran et al., 2022; Ngo et al., 2023). These studies emphasize the impact of institutional and policy factors on the application of new teaching methods. At the same time, the trend of technology development and online learning (Cho et al., 2023; Li et al., 2023; Nguyen et al., 2024) opens up new opportunities for the application of situational learning in the digital environment (Appendix A).

However, there are still some notable gaps. First, while the case method has been widely applied in the fields of medicine, law, and pedagogy, evidence of its systematic application in the field of economics in Vietnam is limited. Second, most current research separates pedagogical effectiveness from the context of university governance, and few studies combine these two perspectives to comprehensively examine the impact of the case method. Third, although technology-based case learning has been studied internationally, empirical evidence from the Vietnamese context is still lacking. Based on these gaps, this study aims to supplement both theory and practice in the application of the case method in Vietnamese higher education, especially in the field of economics.

Hypothesis H1: Lecturer qualifications (LEC) positively influence (+) the application of case study teaching method (CAS).

Many studies have shown that the qualifications, pedagogical competence and practical experience of lecturers are important factors in determining the successful application of the case method (Cho et al., 2023; Ngo et al., 2023). Highly qualified lecturers are often flexible in designing cases, know how to lead discussions and link theory with practice, thereby improving learning effectiveness. On the contrary, inexperienced lecturers or those unfamiliar with this active method often encounter difficulties in implementation, leading to limitations in teaching effectiveness. Therefore, there is a basis to expect that the qualifications of lecturers positively affect the application of the case method.

Hypothesis H2: Readiness to apply information technology (TEC) positively influence (+) the application of case study teaching method (CAS).

In the context of digital transformation, the application of information technology significantly supports the organization and management of situational teaching (Li et al., 2023; Nguyen et al., 2024). Technology allows the construction of simulation situations, online learning, as well as increased interaction between lecturers and students. When lecturers and training institutions are technologically ready, the implementation of the situational method becomes more flexible and effective. Therefore, it can be assumed that the readiness to apply information technology has a positive impact on the application of this method.

Hypothesis H3: Student recruitment (STU) positively influence (+) the application of case study teaching method (CAS).

The size, quality, and characteristics of the incoming student population directly affect the ability to implement active teaching methods, including case studies (Tran et al., 2022; Nguyen and Tran, 2024). When students have good basic competencies, critical thinking skills, and are willing to participate in discussions, case studies will be effective. Conversely, when admissions do not ensure the quality of the incoming students, lecturers may be hesitant or reduce the application of this method. Therefore, there is a basis to predict that admissions have a positive impact on the application of case studies.

Hypothesis H4: University management perspective (MAN) positively influence (+) the application of case study teaching method (CAS).

The management perspective and orientation from the school leadership play a key role in promoting or hindering innovation in teaching methods (Ngo et al., 2023; Tran et al., 2022). When the school board has incentive policies, allocates resources, and creates a supportive environment, lecturers will be motivated to apply the case method. On the contrary, if there is a lack of management orientation, the

implementation is often spontaneous and unsustainable. Therefore, the hypothesis that the university management perspective has a positive influence is completely reasonable.

Hypothesis H5: Quality of learning materials (LEA) positively influence (+) the application of case study teaching method (CAS).

One of the common barriers to implementing the case method in Vietnam is the lack of appropriate, up-to-date, and contextualized learning materials (Nguyen et al., 2024; Cho et al., 2023). When high-quality learning materials are available, lecturers can easily design engaging, practical, and discussion-provoking situations. On the contrary, limited learning materials make it difficult for lecturers to apply this method effectively. Therefore, the quality of learning materials is predicted to be a factor that positively affects the application of the case method.

In summary, drawing on the frameworks of teaching innovation and recent empirical evidence, the study proposes a model to explain the level of application of the case study method (CAS) in economic universities in Southern Vietnam. Specifically, the level of lecturers (LEC) reflects pedagogical competence and practical experience, the readiness to apply IT (TEC) represents the digital capacity of individuals and organizations, enrollment (STU) reflects the quality and characteristics of learners' input, the university management perspective (MAN) represents the orientation and commitment of the university, and the quality of learning materials (LEA) reflects the academic resources for implementation. These five independent variables are hypothesized to have a positive impact on CAS (H1–H5). The model emphasizes the interaction between lecturer competence, technology resources - learning materials and institutional context - student input, thereby explaining why and when the case method is applied at a higher level in the Vietnamese context.

Based on the literature review and previous studies (Cho et al., 2023; Li et al., 2023; Ngo et al., 2023), this study builds a conceptual framework to clarify the factors affecting the application of case study teaching method (CAS) at universities training in the field of Economics in Southern Vietnam. In particular, the factors of lecturer qualifications (LEC), technology readiness (TEC), and learning materials quality (LEA) are inherited from previous studies. However, this study adds two new factors: student recruitment (STU) and university management perspective (MAN) - these are factors that have not been considered by many previous studies but have special significance in the context of Vietnam. The conceptual framework diagram (Appendix B) illustrates the relationship between these elements and the CAS, with the parts inherited from previous literature marked with (blue), and the new contributions of the study marked with (orange).

3. Methodology

The study was conducted based on a mixed method combining qualitative and quantitative research methods

3.1. Step 1: Identify the problem and research objectives

The author synthesizes the views on the case study method, evaluates the current status of applying the case study method at universities, and delves into the Economics sector. On that basis, the problem and research objectives for applying this case study method in teaching students in the Economics sector are presented

3.2. Step 2: Qualitative research

Based on research works and scientific articles related to the implementation of the case study teaching method. The author synthesizes the results, analyzes the strengths and achievements as well as combines them with the background theory to build factors in the research model, combining the construction of initial related research scales. Next, the author conducted interviews to get opinions from experts who have a good understanding of this issue to change the research model and adjust the scales in the

most appropriate way. The selected experts are lecturers, university managers as well as scholars and business owners, they are people with many years of experience and understand the application of case study methods in teaching students in the field of Economics.

3.3. Step 3: Quantitative research

Quantitative research is carried out in 2 steps: preliminary and official.

- Preliminary quantitative research: The sample for the preliminary quantitative research is 65 samples, the sampling method is probability, stratified sampling technique. The results of the preliminary quantitative research scale are completed and used to design the official questionnaire for the official quantitative research in the next step. - Official quantitative research: The survey subjects include lecturers and students of the Economics major at universities in the South, who are those who have directly experienced some teaching activities using the situational method and can see the potential of the situational teaching method, thus clearly understanding the issues related to the situational teaching method in the economics major.

3.4. Step 4: Research results and discussion

The official quantitative research results are presented with contents such as research sample statistics, scale testing results, assessment of multicollinearity, and assessment of regression models of factors affecting the application of the situational teaching method. Based on the research results of the model, the author compares them with previous research results and comments on the level of correlation

3.5. Step 5: Management implications

The author provides management implications to help university administrators, lecturers and students see the benefits of applying the situational teaching method, as well as showing the factors that promote situational teaching as very necessary. The research process is shown in Figure 1.

The research instrument used in this study was adapted from previously validated scales in the literature (Cho et al., 2023; Li et al., 2023; Ngo et al., 2023). The adaptation process included reviewing the items for relevance to the current context, consultation with subject-matter experts, and a pilot test with 50 participants to ensure clarity and appropriateness. Any necessary modifications were made to suit the cultural and institutional context of the study. This approach ensures that the measurement instruments are both reliable and valid

4. Result and discussion

A total of 300 participants were interviewed for this study. The interviewees were selected based on their expertise and roles within universities offering Economics programs, ensuring inclusion of key stakeholders. They included individuals with education level Master's degree or higher and positions such as lecturers, administrators, or managers. Data were collected through semi-structured interviews, which allowed for guided questions while providing flexibility to explore emerging themes in depth. Each interview lasted approximately 45–60 minutes and was audio-recorded with participants' consent. The recorded interviews were transcribed verbatim and analyzed using data analysis method, thematic coding, involving identification of recurring themes, patterns, and relationships relevant to the research questions. This systematic approach ensured rigor and reliability in qualitative data analysis, supporting the credibility and depth of the study's findings. By combining careful participant selection with structured data collection and robust analysis, the interview process provided rich qualitative insights that complemented the survey results.

The study population consisted of 250 lecturers and students from several universities in the Southern region of Vietnam offering programs in the Economics sector. The sampling frame included all students and lecturers enrolled or employed in these institutions at the time of the study. To ensure broad representation across disciplines, participants were selected from almost all fields within the Economics sector. The Administration-Management field accounted for the highest proportion of respondents (23.6%), while the Economics field had the lowest (10%), and the remaining fields ranged between 10% and 20%.

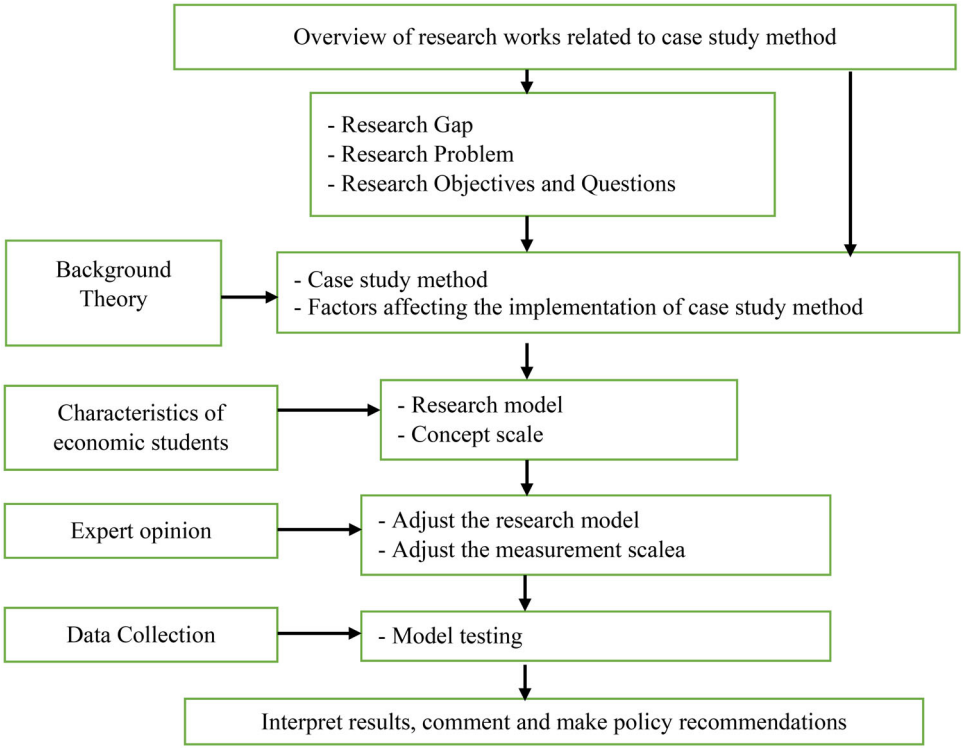

Figure 1. Research Process.
(Source: Author's synthesis).

A stratified convenience sampling method was adopted, combining practical accessibility with efforts to maintain proportional representation of key subgroups (field of study, academic role, and age group). Participants included both lecturers and students, with 104 respondents under 25 years old, and 25–35 age group accounting for 13.2% of the sample. This stratification ensured diversity and representativeness.

Data were collected via a structured questionnaire administered between November, 2024 and March, 2025. A total of 250 questionnaires were distributed, and all were returned, resulting in a 100% response rate. An additional variable of interest was participants' experience with the situational teaching method: 49.6% had applied it 5–10 times, 27.6% more than 10 times, and the remaining respondents fewer than 5 times. (Table 1)

While the sampling approach ensured inclusion of diverse subgroups, it may limit the generalizability of the findings beyond the sampled universities or regions. Some subgroups may be over- or under-represented despite stratification. These limitations should be considered when interpreting the results.

4.1. Cronbach's Alpha

The reliability of the measurement scales was assessed using Cronbach's Alpha. The model includes 5 independent variables, corresponding to 20 observed indicators. After reliability testing, no observed variables were eliminated, and all 20 indicators across the 5 constructs achieved satisfactory reliability (Cronbach's Alpha $>$ 0.7). Detailed results are presented in Table 2. Specifically, the Cronbach's Alpha values for the constructs ranged from 0.730 (Student recruitment) to 0.925 (The application of case study teaching method), indicating strong internal consistency across all variables. These results confirm that the measurement instruments are reliable for further analysis. (Table 2)

Since the data collected were ordinal, measured using a Likert scale, the use of parametric statistical techniques, such as regression analysis, requires verification of the normality assumption. To assess normality, both the Kolmogorov-Smirnov and Shapiro-Wilk tests were conducted, and skewness and kurtosis values were examined. The results indicated that the data were approximately normally distributed, supporting the appropriateness of using parametric methods in subsequent analyses.

Table 1. Descriptive statistics of the basic sample.

	Frequency	Percent
Economics Industry		
Business	42	16.8
Finance-Banking-Insurance	46	18.4
Accounting-Auditing	30	12.0
Administration-Management	59	23.6
Economics	25	10.0
Political Economy	29	11.6
Others	19	7.6
Total	250	100.0
Age		
< 25 years old	104	41.6
25-35 years old	33	13.2
35-45 years old	70	28.0
>45 years old	43	17.2
Total	250	100.0
Number of times experienced with case study method		
<5 times	57	22.8
5-10 times	124	49.6
>10 times	69	27.6
Total	250	100.0

(Source: Author's synthesis).

Table 2. Reliability according to cronbach's alpha coefficient.

Variable	Variable abbreviation	Cronbach'sAlpha
Lecturer qualifications	LEC	0.886
Readiness to apply information technology	TEC	0.893
Student recruitment	STU	0.730
University management perspective	MAN	0.892
Quality of learning materials	LEA	0.904
The application of case study teaching method	CAS	0.925

(Source: The author's collected).

4.2. EFA of independent variables

According to the results in Table 3, the KMO value is $0.778 > 0.5$ and the Sig value of Bartlett's test is $0.000 < 0.05$, showing that the variables are correlated with each other, so the model is suitable for exploratory factor analysis.

Based on the factor rotation matrix when running EFA, the remaining 20 variables are extracted into 5 factors. The extracted factors ensure that the Eigenvalue is greater than 1 and the stopping point when extracting factors at the 5th factor has an Eigenvalue of $2.062 > 1$. The total variance extracted from the 5 factors is 72.688% > 50%, which shows that the ability to use these 5 component factors to explain 72.688% of the variation of the observed variables.

4.3. EFA of dependent variables

The KMO test value is $0.836 > 0.5$ and the Bartlett's test has a sig of $0.000 < 0.05$, so it can be affirmed that the data is suitable for factor analysis. In addition, the Analysis has extracted from 4 variables assessing the impact on night-time economic development a main factor with Eigenvalue equal to 3.275 and total extracted variance of 81.873% >50% (Table 4).

To assess potential common method bias (CMB), Harman's single-factor test was conducted. All 20 observed variables were entered into an unrotated exploratory factor analysis. The results indicated that the first factor accounted for 18.54% of the total variance, well below the 50% threshold. This suggests that common method bias is unlikely to be a significant concern in this study.

5. Results of regression model analysis

Regression analysis of factors affecting the application of case study method at universities training in the Southern economic sector, Vietnam will be carried out with 5 independent factors: LEC; TEC, STU, MAN and LEA; dependent variable is CAS.

Table 3. Exploratory factor analysis EFA of independent factors.

KMO and bartlett's test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.778
Bartlett's Test of Sphericity	Approx. Chi-Square	2861.388
	df	190
	Sig.	0.000

Total variance explained

	Initial eigenvalues			Extraction sums of squared loadings			Rotation sums of squared loadings		
Component	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	3.708	18.540	18.540	3.708	18.540	18.540	3.127	15.636	15.636
2	3.358	16.788	35.328	3.358	16.788	35.328	3.081	15.403	31.039
3	3.112	15.561	50.889	3.112	15.561	50.889	3.056	15.280	46.319
4	2.298	11.490	62.378	2.298	11.490	62.378	3.011	15.057	61.376
5	2.062	10.310	72.688	2.062	10.310	72.688	2.263	11.313	72.688
6	0.823	4.117	76.806						
7	0.607	3.033	79.839						
8	0.565	2.826	82.665						
9	0.475	2.377	85.042						
10	0.411	2.053	87.095						
11	0.372	1.860	88.955						
12	0.339	1.695	90.650						
13	0.328	1.641	92.290						
14	0.313	1.565	93.856						
15	0.282	1.409	95.264						
16	0.270	1.350	96.614						
17	0.229	1.145	97.760						
18	0.191	0.957	98.717						
19	0.138	0.692	99.410						
20	0.118	0.590	100.000						

Extraction Method: Principal Component Analysis.

Rotated component matrix[a]

	Component				
	1	2	3	4	5
LEA4	0.901				
LEA3	0.895				
LEA2	0.867				
LEA1	0.846				
TEC4		0.917			
TEC2		0.890			
TEC1		0.862			
TEC3		0.811			
MAN1			0.916		
MAN4			0.862		
MAN2			0.852		
MAN3			0.832		
LEC4				0.873	
LEC1				0.856	
LEC3				0.853	
LEC2				0.840	
STU1					0.806
STU4					0.805
STU2					0.697
STU3					0.652

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 5 iterations.
(Source: The author's collected).

5.1. Overall regression function

$$\mathbf{CAS} = \beta\mathbf{0} + \beta\mathbf{1LEC} + \beta\mathbf{2TEC} + \beta\mathbf{3STU} + \beta\mathbf{4MAN} + \beta\mathbf{5LEA} + \mathbf{Ui}$$

The objective of this work is to determine the factors and their level of influence on the application of case study method at universities training in the Southern economic sector, Vietnam. According to Table 5,

Table 4. Exploratory factor analysis EFA of dependent variable.

KMO and bartlett's test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.836
Bartlett's Test of Sphericity	Approx. Chi-Square	812.786
	df	6
	Sig.	0.000

Communalities		
	Initial	Extraction
CAS1	1.000	0.770
CAS2	1.000	0.823
CAS3	1.000	0.780
CAS4	1.000	0.902

Extraction Method: Principal Component Analysis.

Total variance explained

	Initial eigenvalues			Extraction sums of squared loadings		
Component	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	3.275	81.873	81.873	3.275	81.873	81.873
2	0.317	7.923	89.796			
3	0.281	7.015	96.811			
4	0.128	3.189	100.000			

Extraction Method: Principal Component Analysis.
(Source: The author's collected).

the level of explanation of the model with the Adjusted R Square index = 0.385, so about 38.5% of the application of situational teaching method at economic training schools in the Southern region is affected by the independent factors of the model, with a confidence level of over 99%.

The regression results show that 5 independent factors affect the selection in the following order: LEA; LEC, TEC, MAN, STU because they are all statistically significant, sig < 0.05 is satisfactory, so they will be retained in the research model.

Based on the results of the table above, ANOVA has a Sig value = $0.000 < 0.05$, which can be concluded that the model exists. In other words, with a significance level of 5%, it can be concluded that the application of situational teaching methods at economic training schools in the Southern region is influenced by at least 1 of the remaining 5 factors.

The regression results show that all five proposed factors (LEC, TEC, STU, MAN, LEA) have a positive and statistically significant influence on the application of the situational teaching method (CAS). In particular, the quality of learning materials (LEA) and the qualifications of lecturers (LEC) are the two strongest influencing factors, reflecting the importance of preparation of learning materials and pedagogical capacity in the process of innovation in teaching methods. In addition, technological readiness (TEC) and university management perspective (MAN) also play an important role in creating favorable conditions and environments for lecturers to apply CAS. The enrollment factor (STU) has the lowest but still significant influence, showing that although student input is not decisive, it still contributes to supporting the effectiveness of the method. (Table 6)

The quality of learning materials plays an important role in situational teaching, especially in the context where it is necessary for lecturers to build hypothetical situations that are suitable and of good quality for students as well as topical (Wormald et al., 2009). The question here is whether the learning materials related to those situations are attractive enough for learners, whether they arouse curiosity and stimulate learners, and the role of lecturers is also mentioned a lot in the construction of these learning materials (Tärnvik, 2007). Lecturers will face more challenges in updating lectures, integrating situations into their lectures and more importantly, explaining to students, grasping more clearly the content of the situation to explain to students (Lyons, 2009). Lecturers play a very important role in applying the situational teaching method for students in the economic sector, they must have experiences with that situation, as well as have methods to promote students' skills and attitudes, creating motivation for them to be interested in the situation being taught (November et al., 2010). The constant development of technology, especially AI tools, GPT chat will be a barrier but also a method to help lecturers and students get closer in discussing, giving ways to solve situations in the most effective way possible, the application of technology in university teaching is almost mandatory in the current trend. All the issues mentioned above

Table 5. Results of regression model analysis.

Model summary[b]

Model	R	R square	Adjusted R square	Std. Error of the estimate	Change statistics					Durbin-Watson
					R square change	F change	df1	df2	Sig. F change	
1	.630[a]	0.397	0.385	0.49781	0.397	32.133	5	244	0.000	1.896

a. Predictors: (Constant), LEA, TEC, MAN, STU, LEC.
b. Dependent Variable: CAS.

Coefficients[a]

Model		Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.049	0.363		0.135	0.893
	LEC	0.259	0.045	0.298	5.799	0.000
	TEC	0.221	0.044	0.250	5.002	0.000
	STU	0.112	0.045	0.127	2.509	0.013
	MAN	0.217	0.045	0.246	4.845	0.000
	LEA	0.312	0.045	0.351	6.958	0.000

a. Dependent Variable: CAS.
(Source: The author's collected).

Table 6. ANOVA analysis results.

ANOVA[a]

Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	39.816	5	7.963	32.133	.000[b]
	Residual	60.467	244	0.248		
	Total	100.282	249			

a. Dependent Variable: CAS.
b. Predictors: (Constant), LEA, TEC, MAN, STU, LEC.
(Source: The author's collected).

are closely related to the role and management orientation of university administrators, they will be the ones to help solve the 'barriers' related to applying the situational teaching method the fastest. All investments in technology, lecturers, and building learning materials are issues that administrators must immediately change their way of thinking to approach, instead of retreating and gradually disappearing. Students are the ones who benefit most practically from applying the situational teaching method (Alam et al., 2010). They themselves must also proactively change in updating technology, seeking more information about the problems and situations presented by lecturers. In addition, they must have the skills to filter information, explain problems in the most logical way to be able to keep up with the situational teaching method.

6. Conclusion

One of the important solutions to improve the quality of teaching in higher education is to innovate teaching methods, especially the increased application of active teaching methods. In particular, the situational teaching method is considered an effective tool to help develop critical thinking capacity, creativity and proactive role of students. Thanks to its dynamism and high practicality, this method not only creates conditions for lecturers and students to form a two-way interactive relationship, but also promotes students to actively participate in the learning process, thereby improving the effectiveness of knowledge acquisition. For students majoring in Economics - which requires acumen, creativity and problem-solving ability - the application of this method contributes to making the learning process more practical and attractive. The quantitative research results show that five main factors (teacher qualifications, technology readiness, enrollment, university management perspective, and learning material quality) all have a positive impact on the level of application of the situational teaching method. In particular, teacher qualifications and technology readiness are the factors with the strongest impact, showing that the combination of personal capacity and infrastructure conditions is a key factor to promote innovation in teaching methods. This is important empirical evidence, contributing to supplementing and developing the theoretical basis of educational innovation in the context of Vietnamese universities.

However, the study still has certain limitations. Due to time and cost limitations, the sample size is not large enough, the scope of the study only focuses on students majoring in Economics at universities in the Southern region, so it does not reflect comprehensively. In addition, some other factors (such as organizational culture, student learning motivation, or enterprise support) have not been included in the research model, leading to limited in-depth analysis. From the above limitations, future studies can expand the scope of the survey to other fields and regions to increase generalizability, and consider adding new factors to perfect the model. In addition, typical case studies in some specific fields also need to be deployed to provide deeper practical evidence.

Acknowledgments

This work belongs to the project grant No: T2025-185 funded by Ho Chi Minh City University of Technology and Education, Vietnam.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Appendix A

Table A1. Summary of related research trends.

Theme	Author – year	Research context	Main contribution / findings	Relevance to your study
1. Case Study & Problem-Based Learning (PBL)	Flyvbjerg (2006)	Theoretical – Social sciences	Debunked 5 common misunderstandings about case study research; affirmed its value in social sciences	Provides theoretical justification for adopting case study in higher education
	Giang (2015)	Accounting education – Vietnam	Applied case study to improve students' analytical and problem-solving skills	Suggests applicability in economics-related fields
	Hoai (2019)	General Law – Vietnam	Using legal case studies improved student engagement and understanding of abstract concepts	Directly relevant to economics-related training programs
	Hoang (2021)	Pedagogy – Vietnam	Identified challenges in applying case study (time limits, teacher capacity, lack of materials)	Helps recognize barriers in Vietnamese universities
	Tärnvik (2007)	Medical education	Traced the revival of case-based learning after PBL	Adds perspective comparing case study and PBL
	Tal (2010)	Preschool teacher education – Israel	Case study enhanced reflection and problem-solving competence	Demonstrates flexibility across educational contexts
	Tho (2020)	Political theory education – Vietnam	Case study increased learning motivation and analytical capacity	Highlights relevance in social sciences education within economics
2. Active Learning Methods (Cooperative, ARS, Role-play, etc.)	Doucet et al. (2009)	Canada – Medicine	Audience Response Systems improved motivation and classroom participation	Supports the role of active learning techniques
	Iputo and Kwizera (2005)	South Africa – Medicine	PBL improved learning outcomes and analytical skills	Shows strong effect of PBL in developing contexts
	Muraya and Kimamo (2011)	Kenya – Biology	Cooperative learning enhanced performance and collaboration	Illustrates positive classroom impact
	Scheepers and de Villiers (2000)	South Africa – IT	Cooperative learning outperformed traditional teaching	Relates to comparing teaching methods
	Shavit et al. (2010)	Israel – Healthcare skills training	Compared methods; found case study to be more adaptable	Suggests versatility of case-based learning
	Wormald et al. (2009)	Medical education	Found teaching methods strongly influenced how students learn	Emphasizes the importance of instructional design
3. Academic Writing & Competence Development	Badger (2010)	UK – Academic writing	Peer teaching & peer review improved writing skills	Contrasts with case study in competency development
	Diep (2014)	Folklore teaching – Vietnam	Promoted competence-based approach through innovative teaching methods	Shows trend of competence-oriented pedagogy
	Hughes and Chen (2011)	USA – Secondary education	Teacher–peer relationships influenced confidence and achievement	Highlights psychological–social aspects of learning
4. Educational Trends & Reviews	Lee et al., (2009)	Systematic review (2000–2007)	Identified trends in science education research	Positions case study within global research trends
	Lyons (2009)	Australia – Rural teachers	Studied teacher motivation and challenges	Provides comparable context to Vietnam's challenges
5. Educational Management, Leadership & Reform	Ngcobo (2008)	South Africa	School leadership fostered positive learning culture	Adds leadership perspective in adopting case study
	November et al. (2010)	South Africa	Teacher leadership improved school performance	Links to governance in Vietnamese HE context
	Killen and Hunt (2010)	Project management	Discussed agility through portfolio project management	Offers managerial insights for higher education
	Tran et al.,(2022)	Vietnam	Education reform in the integration era	Directly related to higher education reform in Vietnam
	Ngo et al., (2023)	Tay Nguyen University – Vietnam	Faculty development in autonomous universities	Suggests institutional factors affecting case study adoption
6. Technology & E-learning Applications	Alam et al.,(2010)	Visualization (3D vs 2D)	3D animation enhanced learning effectiveness	Supports online case study design
	Cho et al., (2023)	South Korea – Online teacher training	Case-based online learning for teachers	Evidence of integrating case study with technology
	Li et al., (2023)	Systematic review (2001–2020)	Cultural factors influenced e-learning adoption	Provides insights for applying technology in Vietnam
	Nguyen et al. (2024)	Vietnam – E-learning	E-learning quality impacted learners' choice	Relevant to applying case study in online learning

Appendix B. Conceptual framework

Figure illustrates the conceptual framework of factors influencing the application of the case study teaching method (CAS).

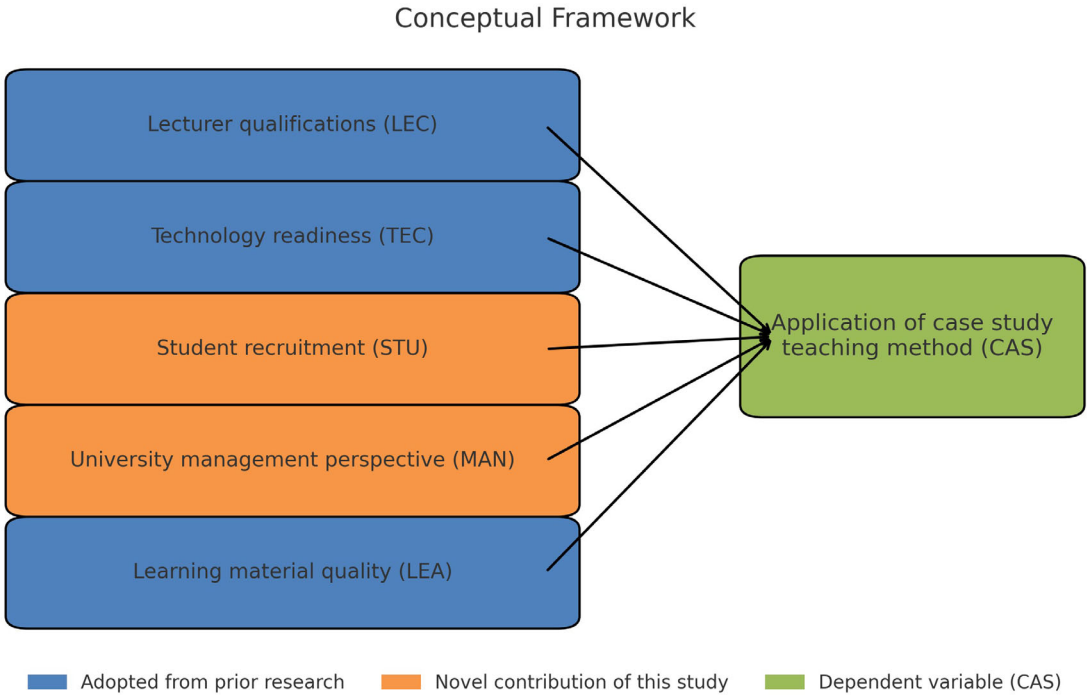

Figure. Conceptual framework. Blue = adopted from prior research; Orange = novel contributions; Green = dependent variable (CAS).